Meeting with Ute Indian Tribe: Draft Proposed FIP for Existing Oil and Natural Gas Sources on the Uintah and Ouray Indian Reservation

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EPA Region 8 Office

What We Will Cover

- Overview of Process, Coordination, Status and Path Forward
- Ute Business Committee's Resolution Principles vs. EPA Draft Proposed FIP
- Development of Draft Proposed FIP
- Basis for Focus on VOC Emissions Reduction
- Summary of 2014 Emission Inventory Work in the Basin

Overview of Process, Coordination, Status and Path Forward

Tribal Meetings and Stakeholder Coordination

- Meetings with the Ute Tribe:
  - July 22, 2015
  - December 17, 2015
  - January 14, 2016
  - February 22, 2016
- Stakeholder meetings hosted by EPA, Ute Tribe Air Quality Staff and UDAQ
  - April 14, 2015: Oil and Natural Gas Operators and Representatives
  - September 3, 2015: Oil and Natural Gas Operators and Representatives
  - September 17, 2015: Environmental Groups
  - October 20, 2015: Federal Land Managers
  - October 21, 2015: Local County Officials
- Ongoing Monthly Basin Coordination Meetings with EPA, Ute Tribe Air Quality Staff, UDAQ
- EPA Staff, Ute Tribe Air Quality Staff and UDAQ Staff Technical Meeting in Fort Duchesne:
  - March 14, 2016
- Various email and telephone communication has occurred between EPA and UDAQ for technical clarification of Utah's oil and gas rules and permit requirements for existing sources

Current Status of Draft Proposed FIP

- June 22, 2016 - Draft submitted to OMB for interagency review
- September 22, 2016 - OMB began ongoing submittal of several rounds of OMB interagency comments and resulting EPA responses
- Three meetings requested of OMB during interagency review (1 environmental group, 1 industry group, Ute Tribe)

Path Forward for Draft Proposed FIP

- We plan to respond to latest round of OMB interagency comments after evaluating input from this meeting with the Tribe
- We expect to be able to propose the FIP shortly after the draft is released by OMB

Ute Business Committee's Resolution Principles vs. EPA Draft Proposed FIP

Resolution Principle #1

"1. To both facilitate and encourage continued oil and gas development on the Reservation, the FIP should be available for both minor modifications at major sources and modifications at synthetic minor sources."

Alignment with Resolution Principle #1

- Currently lack a FIP providing streamlined permitting for new and modified sources if the area is designated nonattainment
  - However, individual permits could be issued by EPA to new minor and synthetic minor sources in a nonattainment area if a demonstration could be made that the new sources will not contribute to nonattainment
- Currently, as an attainment/unclassifiable area:
  - New and modified true minor sources are controlled by national Indian country FIP
  - New and modified synthetic minor sources and minor modifications at major sources are controlled by site-specific permitting under Tribal Minor NSR permit program
  - Major sources are controlled by PSD permit program

Resolution Principle #2

"2. A FIP should have a streamlined approach for the Tribes Industry partners to obtain synthetic minor permits for oil and natural gas operations. By excluding synthetic minor sources from the FIP, operators must obtain synthetic minor permits through a complicated and inefficient case-by-case permitting process established in §49.158."

Alignment with Resolution Principle #2

- National Indian Country FIP did not cover synthetic minor sources as EPA believes such permits require review to protect the NAAQS, which the FIP did not provide
  - Synthetic minor permits allow sources to avoid major source status by setting source specific limits
- Given compromised air quality in the Basin, need to reduce emissions from existing sources to allow for streamlined permitting of new and modified sources
- Considering streamlined permitting options for new and modified sources on the Uintah and Ouray Reservation once existing source FIP in place
  - Would like to explore those options with the Tribe

Resolution Principle #3

"3. The reservation-specific FIP should be specifically tailored to the unique concerns of the Ute Indian Tribe and be developed in a manner to help the Tribe and its industry partners to transition from attainment to a non-attainment designation."

Alignment with Resolution Principle #3

- We recognize the Ute Tribe has requested that EPA should prepare a specific rule or rules tailored for the Uintah and Ouray Reservation instead of just relying on the national FIP
- The national FIP rulemaking mentions that EPA can develop a Reservation-specific FIP if the national FIP is determined to not be adequate to address local air quality issues
- This proposed FIP is tailored to the Uintah and Ouray Reservation and its specific needs

Resolution Principle #4

"4. A reservation-specific FIP will also maintain consistency with surrounding jurisdictions, eliminating the likelihood of requiring permitting requirements on the Reservation that are more stringent than on adjacent lands and increasing the likelihood that the requirements would address the issues specific to the Uintah Basin. This would enable the EPA to develop a FIP that is based on a reservation-specific basis in a manner similar to how the EPA has done in the past on other tribal reservations."

Alignment with Resolution Principle #4

- Goal of the proposed FIP is to protect air quality and human health consistent with EPA's national standards for the oil and natural gas industry
- Goal is also to be consistent with Utah's rules and permit requirements for oil and natural gas sources on state land
- Agree with the Business Committee that there should be a level playing field for industry across the region

Resolution Principle #5

"5. The FIP should establish permitting requirements for both new sources and certain existing sources that would not place overly burdensome requirements on the Tribe's industry partners."

Alignment with Resolution Principle #5

- Streamlined permitting new and modified true minor oil and natural gas sources in attainment, and attainment/unclassifiable areas is covered under the national FIP
- Would like to discuss options for streamlined permitting if the area becomes nonattainment
- An important first step to allowing for new growth is to address existing sources emissions from uncontrolled sources, which the reservation-specific FIP proposes to do
  - Reducing existing source emissions can help demonstrate that proposed new and modified sources will not cause or contribute to exceedances of the ozone standard
- We believe the FIP's existing source requirements are reasonable
  - Total annualized cost of the proposed FIP estimated to be $95 million or $2,300 dollar per ton of VOC reduced, which is considered to be reasonable and cost effective
- Many of the strategies/controls in the draft FIP would benefit operators by reducing the amount of gas vented to the atmosphere

Resolution Principle #6

"6. In regulating certain classes of existing sources, the EPA should target only those existing minor sources and certain existing sources that would not place overly burdensome requirements on the Tribe's industry partners."

Alignment with Resolution Principle #6

- Under the draft proposed FIP, we are addressing only those pieces of equipment and activities at existing sources that are not regulated by existing EPA oil and natural gas standards
- Applicability thresholds and emission control requirements are largely consistent with Utah's air permit requirements for equivalent sources
- Based on existing tribal minor source registration data, we anticipate this to affect about 5,000 sources and reduce VOC emissions by about 40,000 tons per year

Resolution Principle #7

"7. Regulating all existing sources would compromise continued development on the Reservation, limiting both tribal revenue and opportunities for tribal members."

Alignment with Resolution Principle #7

- Not proposing to require the more substantive VOC emission control requirements for all pieces of equipment or activities at all existing sources
  - Proposing the same minimum VOC emissions thresholds as Utah for control requirements on land under its jurisdiction
- Need to reduce existing source emissions to help demonstrate that proposed new and modified sources will not cause or contribute to exceedances of the ozone standard
  - Regardless of the permitting approach used – permit by rule or individual permits – reduced emissions from existing sources can help make this demonstration
- Allows for continued growth within the Uintah and Ouray Reservation, even in the face of a nonattainment designation

Resolution Principle #8

"8. A reservation-specific FIP should be specifically tailored to address the unique air quality concerns of the Uintah and Ouray Reservation, promoting certainty in the Uintah Basin, facilitating the transition under nonattainment requirements, and mitigating the administrative burden that will result from a nonattainment designation."

Alignment with Resolution Principle #8

- Addressing existing sources could lessen the severity of a potential ozone nonattainment designation or facilitate coming back into attainment sooner
- A gap exists in control between Utah and the Uintah and Ouray Reservation
- Most emissions from existing oil and natural gas sources on the Reservation are not regulated by EPA standards
- We have developed a set of requirements that are largely consistent with EPA's oil and natural gas sector standards and Utah's rules and permit requirements for existing oil and natural gas sources within Utah's jurisdiction, creating a level playing field for industry

Development of Draft Proposed FIP

Developing Requirements in the Proposed FIP

- Primary goal of the proposed FIP is to improve air quality by reducing wintertime ozone in the Basin (see next slide)
- In meeting this goal, considerations in developing proposed FIP:
  - Identify pollutant of concern – VOC
  - Understand the wintertime sources of VOC
  - Identify largest VOC sources of oil and natural gas operations in the Basin
  - Establish VOC requirements consistent with national standards
- Another important goal is to create a level playing field by consulting Utah's oil and natural gas source VOC requirements:
  - Codified oil and natural gas regulations

Ozone Air Quality Data in the Basin

Site Name	County	On U&O Reservation?	AQS ID	Year	Annual 4th Highest Daily Maximum 8-hour Value (ppb)	Ozone Design Value* (ppb)
Meeker, CO	Rio Blanco	No	08-103-0005	2015	64	63
Rangely, CO	Rio Blanco	No	08-103-0006	2015	66	73
Roosevelt	Duchesne	No	49-013-0002	2015	60	75
Fruitland	Duchesne	No	49-013-1001	2015	N/A	N/A
Myton	Duchesne	Yes	49-013-7011	2015	66	74
Dinosaur NM	Uintah	No	49-047-1002	2015	67	N/A
Vernal 1	Uintah	No	49-047-1003	2015	N/A	N/A
Redwash	Uintah	Yes	49-047-2002	2015	67	71
Ouray	Uintah	Yes	49-047-2003	2015	67	79
Dragon Road	Uintah	Yes	49-047-5632	2015	N/A	N/A
Whiterocks	Uintah	Yes	49-047-7022	2015	68	68

*Design value is calculated based on a three year average of the fourth highest daily maximum 8-hour average ozone measured in a year at each monitoring site. Red font indicates exceedance of 2015 ozone standard of 70 ppb. Design value information from http://www3.epa.gov/airtrends/values.html.

Developing Requirements in the Proposed FIP

- We are proposing VOC emission control requirements for the following nine pieces of equipment and activities:
  - Storage tanks
  - Dehydrators
  - Pneumatic pumps
  - Covers and closed-vent systems
  - VOC emission control devices
  - Fugitive emissions
  - Tank truck loading and unloading
  - Pneumatic controllers
  - Other combustion devices

Developing Requirements in the Proposed FIP

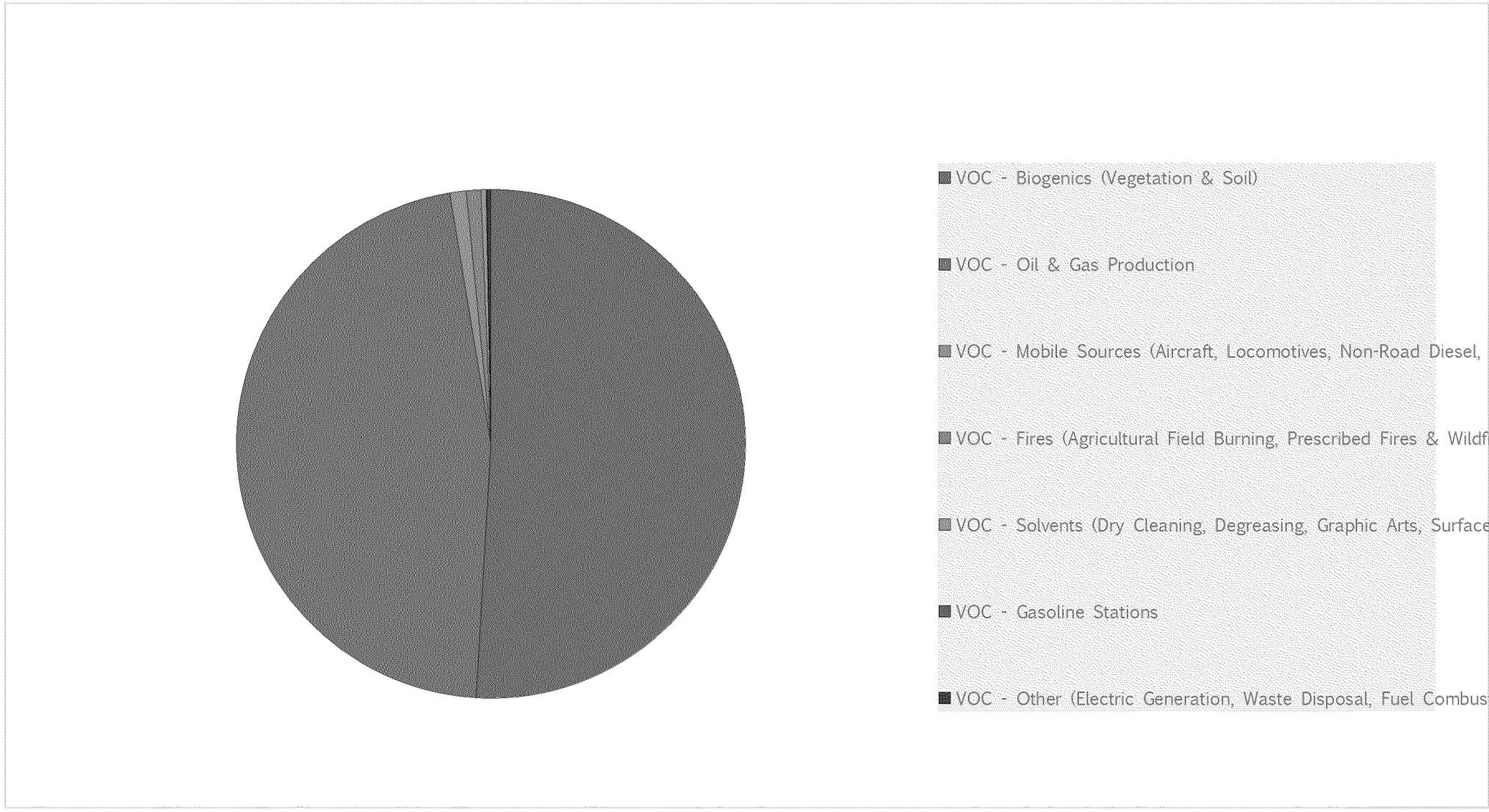
- EPA's national standards for the oil and natural gas sector may apply to certain pieces of equipment or activities at existing sources, depending on the type of equipment or date of construction
  - The proposed FIP would not apply to those pieces of equipment or activities
  - This is a small portion of the total inventory
- The requirements for covers and closed-vent systems and pneumatic controllers are consistent with EPA's NSPS and Utah's requirements
- The ton per year thresholds that trigger control of storage tanks and pneumatic pumps are consistent with Utah's requirements

Developing Requirements in the Proposed FIP

- The requirements for VOC emission control device efficiency:
  - Device must be designed and operated to achieve 98.0 % efficiency on average
  - Device must be demonstrated to achieve 95.0 % on a continuous basis
- The requirements to control VOC emissions from dehydrators, tank truck loading and unloading and other combustion devices are consistent with Utah's requirements
- The applicability threshold requiring fugitive emissions inspections is consistent with Utah's requirements
- The requirements for fugitive emissions inspection frequency are consistent with EPA's NSPS

Basis for Focus on VOC Emissions Reduction

Sources of VOC in the Basin



Source: 2014 NEI, https://www.epa.gov/air-emissions-inventories/2014-nei-data

Sources of NO_X in the Basin

Source: 2014 NEI, https://www.epa.gov/air-emissions-inventories/2014-nei-data

2012 VOC and NOx Emissions for the Oil and Gas Industry by County and by Tribal or Non-Tribal Airshed for the Basin

County	VOC (TPY)	Percent of Total VOC	NOx (TPY)	Percent of Total NO_X
Tribal Airshed				
Carbon	548	<1%	88	<1%
Duchesne	18,613	15%	3,338	20%
Emery	0	0%	0	0%
Grand	301	<1%	371	2%
Uintah	82,857	65%	8,622	52%
Wasatch	0	0%	0	0%
Total Tribal	102,319	80%	12,419	75%
Non-Tribal Airshed				
Carbon	3,429	2%	1,263	8%
Duchesne	16,797	13%	2,014	12%
Emery	559	<1%	259	2%
Grand	2,683	2%	365	2%
Uintah	1,707	1%	228	1%
Wasatch	0	0%	0	0%
Total Non-Tribal	25,175	20%	4,128	25%
TOTAL	127,495		16,547	

Source: Data from WRAP, O&G Emissions Workgroup: Phase III Inventory, Uinta Basin Reports, 2012 Mid-Term Projection Technical Memo, "DEVELOPMENT OF 2012 OIL AND GAS EMISSIONS PROJECTIONS FOR THE UINTA BASIN", March 25, 2009, available online at http://www.wrapair2.org/Phase_III.aspx

VOC and NOx Emissions on Indian Country Lands within the Uintah and Ouray Reservation

Source Type	# Sources	VOC (TPY)	Percent of Total VOC	NOx (TPY)	Percent of Total NOx
Existing Permitted Sources	19	1,053	1.6%	5,258	32%
Existing Unpermitted Minor Oil and Natural Gas Sources	5,169	63,140	98%	11,168	68%
Existing Minor Nonmetallic Mineral Mining Sources	1	9	0.01%	3	0.02%
TOTAL	5,189	64,202		16,429	

Source: Data from existing minor source registration reports submitted under 40 CFR 49.160 of the Federal Indian Country Minor NSR Program by operators of sources on the Indian country lands within the U&O Reservation.

Basin Studies of Wintertime Ozone

- Field studies were conducted in the Basin from 2011 to 2014:
  - Understand the emissions sources contributing to winter ozone
  - Concluded that ozone production is sensitive to reductions in VOC emissions but relatively less sensitive to reductions in NO_x emissions.
- Based on conclusions of field studies, EPA concluded ozone levels in the Basin are being more significantly influenced by concentrations of VOC emissions from the accumulation of minor oil and natural gas production operations, rather than concentrations of NO_x emissions from those same operations.

Summary of 2014 Emission Inventory work in the Basin

O&G Air Emission Research Findings in the Basin

Discrepancy between top-down measurements and bottom-up emission inventories

- In the Basin, airborne measurements ~8.9% of gas produced released to atmosphere compared to Greenhouse Gas Reporting Rule, subpart W ~ 1.0%
- In the Basin, ozone modeling shows low negative bias for VOC and methane by factor of 1.8 and 4.8 respectively

2014 Basin Emission Inventory

- VOC emissions down
  - ↓ 41% vs. 2012 WRAP-Phase III upon which ozone modeling built upon
- Discrepancies with Tribal Existing Minor Source Registrations
  - ↑ 30% number of sources
  - ↓ 76% glycol dehydrator VOC emissions
  - ↓ 66% tank VOC emissions
- Discrepancies with Greenhouse Gas Reporting Rule, subpart W
  - ↓ 27% number pneumatic pumps (> 3,000)
  - ↑ 22% number pneumatic controllers (>8,000)
- Detailed comparative analysis underway to work with operators to ensure sound Basin Emission Inventory

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